

Appendix 2.

Ecological Reference Worksheet

Author(s) / participant(s): Don Ashby Jr., Bob Moorhead, Richard Spencer, Tim Henry, Ty Carter, Jim Norris, John Hartung

Contact for lead author : Don Ashby Jr. **Reference site used? Yes/No** No

Date: 3/21/2005 **MLRA:** 70 **Ecological Site:** Deep Sand CP-3 This must be verified based on soils and climate (see Ecological Site Description). Current plant community cannot be used to identify the ecological site.

Indicators: For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range of values for above and below average years for <u>each</u> community within the reference state, when appropriate & (3) site data. Continue description on separate sheet.	Indicator Weight
1. Number and extent of rills : None	
2. Presence of water flow patterns: None	
3. Number and height of erosional pedestals or terracettes: None	
4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground) : Bare ground can contribute up to 65% of this site. Bare spots are numerous and large patches >24 inches are not uncommon.	
5. Number of gullies and erosion associated with gullies: None	
6. Extent of wind scoured, blowouts and/or depositional areas: This site has a high potential for soil blowing, blowouts, and depositional areas if the natural vegetative cover is not maintained.	
7. Amount of litter movement (describe size and distance expected to travel) : Fine to medium sized (plant material) litter movement 6-10 feet can be expected on this site.	
8. Soil surface (top few mm) resistance to erosion (stability) values are averages - most sites will show a range of values for both plant canopy and interspaces, if different): Anticipated to be 1-2 at the surface and subsurface in the interspaces and 2-3 at the surface and subsurface under vegetation.	
9. Soil surface structures and SOM content (include type and strength of structure, and A-horizon color and thickness for both plant canopy and interspaces, if different) : Soils are Loamy fine sand to sands, reddish brown in color with the A horizon 2-3 inches in depth. Soils are deep and excessively drained with rapid permeability and low water-holding capacity.	
10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: Grasses and forbs account for 88% of the annual herbaceous production for this site and make up 20% of the site composition. Infiltration is best with low intensity rainfall events. No runoff can be expected on these sites.	
11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): None	
12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: indicate much greater than (>>) , greater than (>) , and equal to (=) : Warm Season bunch grasses>=Warm Season stolon grasses>Cool Season bunch grasses>Shrubs(sagebrush, Sumac)>Forbs(buckwheat, sunflower)	
13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence) : Most of the perennial grasses, forbs, and shrubs are long lived. Extended drought periods tend to cause high mortality rates in grass species and some mortality with the forbs. Shrub mortality can occur in severe, multiple year droughts.	
14. Average percent litter cover (8-10% %) and depth (0.79 inches). Percent litter and depth will increase with multiple, above average rainfall years.	
15. Expected annual production (this is <u>TOTAL</u> above-ground production, not just forage production): 250 lbs/ac low precip years, 1175 lbs/ac in average precip years, 2100 lbs/ac in above average years. Grass/grasslikes make up 80% of the total annual production.	
16. Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, "can, and often do , continue to increase regardless of the management of the site and may eventually dominate the site": Rabbitbrush, broom snakeweed and juniper/pinyon species can invade these sites. They tend not to dominate these sites, except under extreme conditions, such as overgrazing and extended drought.	
17. Perennial plant reproductive capability : Weather related and natural disease can result in reduced reproductive capabilities. Favorable precip years will maintain perennial plant reproduction.	

Photograph (s)

MLRA : 70

Date :

Ecological Site : Deep Sand CP-3

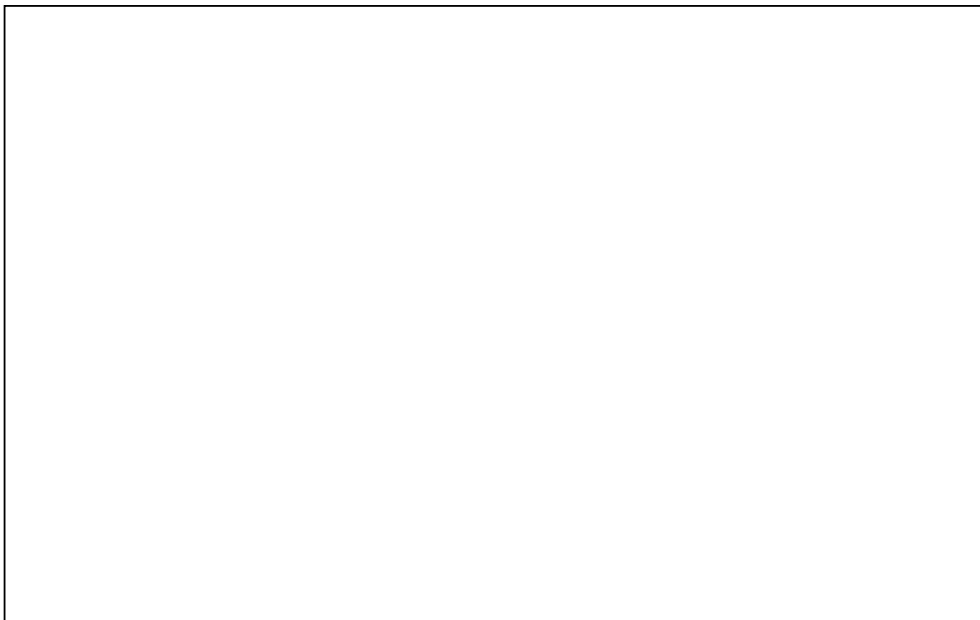


Photo # 1

Comments :

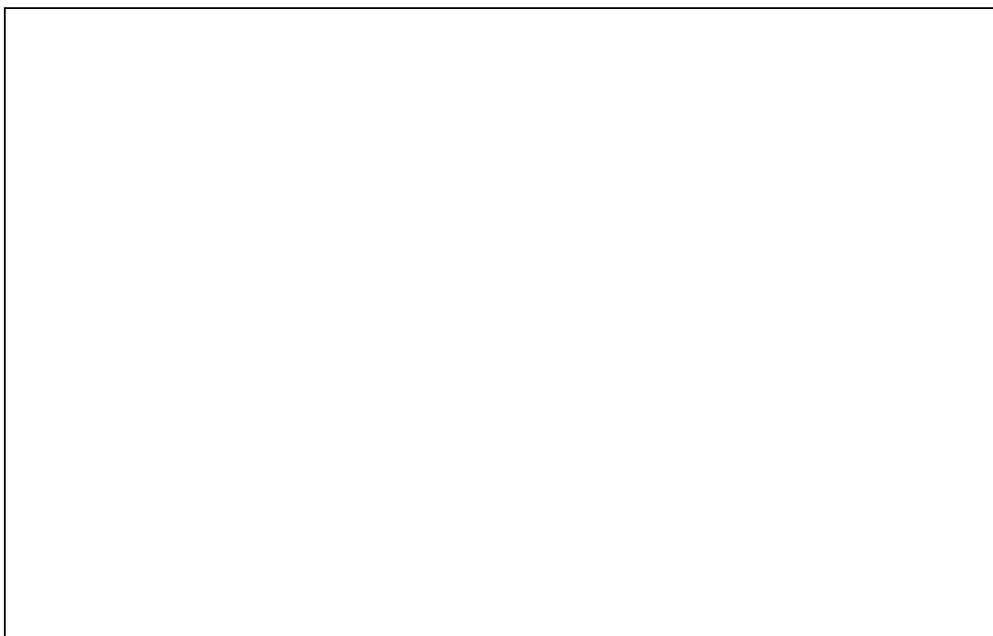


Photo # 2

Comments :

Appendix 4.

Functional / Structural Groups Worksheet

State	NM	Office	Carrizozo	Ecological Site	Deep Sand CP-3
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Observers	<u>Don Ashby Jr., Bob Moorhead, Richard Spencer, Tim Henry, Ty Ca</u>	Date	<u>3/21/05</u>
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Indicate whether each "structural/functional group" is a Dominant (D)(roughly 40-100% composition), a**Sub-dominant (S)** (roughly 10-40%) composition) a**Minor Component (M)** (roughly 2-5% composition), or a**Trace Component (T)** (<2% composition) based on weight or cover composition in the area of interest (e.g., "Actual ² column) relative to the "Potential ² column derived from information found in the ecological site/description and/or at the ecological reference area.

Biological Crust 3 dominance is evaluated solely **oncover** not composition by weight